

# ***Effective Teaching Techniques in Bilingual Courses in Chinese Higher Education***

—Empirical Results based on Real Learning Outcomes

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**Abstract**—for the past decade, China’s education system has put much effort in bilingual teaching in English. Most Chinese higher education institutions set up bilingual form in professional courses to improve students’ professional English skills. This paper discusses problems encountered in the implementation of bilingual courses, such as inefficiency in teaching and low acceptance among students. Through the understanding of students in the teaching practice, this paper finds that the problem is not caused by students’ English skills, professional foundation or their learning habits, but by the mismatch of their English skills and professional knowledge reserves, leading to not being able to apply English in learning specialized courses, hence reducing learning interests. We conduct a series of methods on reforming bilingual teaching techniques based on actual experimental teaching and follow-up surveys, and find that use of targeted previews, English keywords, and online platform providing repeatable English micro lessons can largely improve students’ learning interests and learning efficiency. This study explores the essential causes of problems in bilingual teaching and explores effective ways to improve teaching outcomes, filling the gap between the theoretical and practical research.

**Keywords**—*bilingual teaching; effective teaching techniques; higher education; China*

## I. PROFESSIONAL BILINGUAL COURSES IN CHINESE HIGHER EDUCATION INSTITUTIONS

To promote internationalization of higher education, enhance the ability of teaching international students, improve students’ international competitiveness and strengthen their bilingual learning ability, most Chinese colleges and universities have carried out bilingual teaching in professional courses. These courses are mainly set out for non-English major students; usually one or two courses are introduced in their third year when the studies of professional knowledge are the most intensive. The Chinese higher education department of the Ministry of Education aims to reach 50% of bilingual teaching in Chinese higher education in the long run. The Chinese education system requires students to learn English for 6-8 years before higher education, and after college, many graduate students go abroad to continue their study, mostly in English speaking countries. The proportion of students going abroad has been rising in the past ten years, with more students

from top universities (10% to 35% students went abroad to study in 2016) than ordinary universities.

However, Chinese bilingual course system faces many challenges. Firstly, the goal of bilingual courses is not clear. In the process of teaching, because English is neither students’ nor lecturers’ native language, it is very easy to spend too much time on language. More emphasis is put on English skills rather than professional knowledge. We also observe the other extreme situation where lecturers completely ignore the use of English and implement teaching using Chinese. Secondly, bilingual courses require both professional knowledge and English skills from lecturers; as a result, bilingual teaching restricts lecturers’ application of various teaching methods. The atmosphere in classroom becomes dull, making it more difficult to encourage students’ participation. Thirdly, Students’ English ability is uneven. Students are divided into two extreme camps due to their interests in and levels of English. If lecturers care too much for students with poor English skills, the course’s depth inevitably drops below desirable levels. And finally, bilingual teaching methods lack innovation, and the same teaching methods have been used since the late 90s. Chinese traditional education method is prone to providing information to students, neglecting students’ active participation and cultivation of critical thinking. As a result, due to insufficient in-class perception and language barriers, students put on more emphasis on after-class learning, making bilingual teaching less meaningful.

Bilingual courses should not be seen as an English language education, nor can it be seen as an ordinary professional education. There are three basic principles for setting bilingual courses: firstly, bilingual teaching should primarily aim for teaching and learning of subject-matter courses, which must reach professional curriculum requirements rather than lower them. The second is to provide students with access to professional foreign languages to prepare themselves for future study or career. Thirdly, students should accept and master critical thinking and international communication skills in the process of bilingual learning, so that they can be competitive on an international level. Among these three, delivering professional knowledge should be the fundamental principle. Therefore, how to clearly reach this purpose and how to use proper teaching techniques have

become an urgent issue. Lecturers must find ways to help students overcome language and psychological barriers and get actively involved in teaching interaction in class at the same time. The purpose of this study is to explore and test effects of new teaching techniques for bilingual courses and to provide potential solutions for teaching in English for second language students in all countries.

## II. 1ST SURVEY: POTENTIAL SOLUTIONS

The primary purpose of this section is to describe how the following conclusion is reached in bilingual teaching: it is not the English level or professional foundation of students or lecturers that hinders bilingual teaching effect, but the mismatch between English skills and professional foundation. We conduct a survey in bilingual teaching among students in a 211 programmed university in China. Participating students are third year in the same teaching group with same professional major (non-English). We conduct two first surveys, one before using new teaching techniques and one afterwards. Students are asked to treat this experimental teaching seriously and answer questions honestly.

In the first survey, it is found that 90% of students have passed the College English Test level 6 (CET6), 8% attended IELTS or TOEFL test. This result shows that English skills are not the biggest obstacle (if any) in bilingual learning. Students are also asked to rank their strength of listening, speaking, reading, and writing; 73% students rank reading as the strongest, and 32% and 47% think that listening and speaking is the most difficult, which means the practical ability to apply English on a daily basis needs to be improved.

We check students' attitude in learning and find that 90% students support the idea that bilingual teaching is meaningful and important, 7% are neutral, and only 3% are opposed by it. In that 90%, 67.69% students believe that they can learn both professional knowledge and professional English, 54.62% are interested in learning more international situation in related area, and 53.0% think professional bilingual course could help their future career or studying abroad. However, they do not believe that professional bilingual courses can stimulate their interest or improve their learning result. The 7% neutral students expressed their confusion in universities setting up bilingual courses; the remaining 3% believe that they cannot learn more in bilingual courses than in ordinary courses and expressed their concern. These results suggest that poor teaching effect of bilingual courses is not caused by students' learning attitude.

To understand whether poor teaching effect is caused by factors such as students' different attitude towards English, professional foundation or learning habits, we analyze learning attitude of English and bilingual courses among students passed CET6 separately. 10% think that bilingual teaching is not very meaningful, this percentage is no lower than the whole samples, suggesting the level of English does not directly influence learning interest of the bilingual course. This result indicates that there might be a mismatch between students' English skills and their professional foundation. At the same time, we analyze students' professional foundation and bilingual course learning attitude, and find that 91% of students

interested in professional learning are also interested in bilingual courses; students with poor professional interest were less interested, however still maintained at a relatively high 86% level. In addition, we divide students into different camps according to their learning habits. Some students like to pay more attention in class and less attention afterwards (17.68%), while others are self-taught (28.57%). Students from both groups expressed similar attitude towards professional bilingual courses, which means learning habits do not interfere with learning outcomes. Data from survey suggests that we cannot blame poor effect of bilingual courses on English skills, professional foundation, or learning habits, but possibly on mismatch of English knowledge reserve and professional English requirements.

## III. EXPLORATION AND RESEARCH DESIGN OF BILINGUAL TEACHING METHODS

The principal of this teaching practice is to improve effectiveness of bilingual teaching, to solve problems of compatibility of language and professional knowledge and to improve students' professional knowledge and practical English skills. Students in higher education all possess certain level of English foundation and professional foundation; however, these two aspects need to be integrated. Lecturers need to construct a more complete and integrated learning knowledge system and learning condition, i.e., to help students master professional English keywords, get access to English version curriculum, familiarize syllabus framework, to prepare them for better self-study and preview.

The key of bilingual teaching is to make students overcome language and psychological barriers. To incorporate students' English skills and professional foundation, students need to learn professional English vocabulary and basic use of keywords. This helps deepen students' understanding of English courseware in class and improve teaching outcome. If learning outcome is improved, students' study enthusiasm will naturally improve, and a virtuous cycle is formed. Bilingual teaching requires lecturers to grasp the teaching requirements, to have a more detailed understanding of students' professional knowledge structure and professional English level, so that they can use various methods to improve students' professional English. Students who are not clear enough to learning purposes, not highly motivated, or with poor English foundation can be guided by a series of introduction of relevant professional insights to adjust their attitudes. At the same time, lecturers need to create a good learning atmosphere through interesting cases and incentive measures. Therefore, several reform measures are adopted in this teaching practice for a whole semester as presented in Table I, and a 2nd survey is carried out at the end to monitor students' learning outcomes.

TABLE I. TEACHING TECHNIQUES

	Teaching Techniques	Description
A	<i>Targeted pre-class preview</i>	Lecturers prepare handouts of important knowledge points in English and distribute to students one week before class, so that they can be prepared during lecture and will be more active in cooperating with lecturers.

Cont.to TABLE I		
B	<i>English keywords</i>	Lecturers summarize English key words for all in class teachings, and give them to students one week before class, so that students can be prepared in advance, thus become confident during lectures.
C	<i>Better multimedia courseware</i>	Lecturers integrate courseware in English; improve processing of color, format and animation, increase professional atmosphere of teaching in order to increase students' interests in the curriculum.
D	<i>Micro English lectures (10 to 15 minutes) and online platform</i>	Online platform provides repeatable micro English lectures of key knowledge (with subtitles) so that students can study and review at their own speed. Lecturers push the above materials on time and establish a platform for direct communication with students. Chinese students are shy and modest even when they are confident, so a direct and private channel is important especially when the teaching environment is English.
E	<i>Empirical examples</i>	Real descriptive and numerical examples are provided to students during lectures to deepen understanding of knowledge.
F	<i>International professional progress and current affairs</i>	Using international examples and current affairs to increase students' learning interests and their acceptance of bilingual teaching.
G	<i>Introduction of recent theoretical advances</i>	Expand professional syllabus by introducing new theories in related areas to provoke students' interest in learning.

At the end of the semester, we examine students' learning outcomes by surveying each student and compare results with the first survey. The above mentioned teaching methods are implemented throughout the entire semester and all materials are provided to each student.

IV. 2ND SURVEY: EXPERIMENTAL TEACHING OUTCOMES

Data in this section is based on survey taken by 163 third-year college students studying the same bilingual course. Questions included in the first and second survey can be found in Appendix.

Table II presents learning outcomes for students with different attitudes towards English, different learning habits, and different professional foundations. Three columns represent acceptance of different learning outcomes. 77.5% of students respond positively to our teaching methods' application after learning. However, students with different background display different results. For example, the percentage of positive results decreases with decreases in attitude of English, indicating that the teaching methods we applied are still dependent upon students' English skills. The percentage of students responding negatively is 17.5%, and this number is highest for students with poor English skills (25%), no fixed learning habits (50%), and median professional (21.43%). This result suggests that our methods are generally effective for students with average and above English skills and fixed learning habits.

TABLE II. LEARNING OUTCOMES

		Learning Outcomes (Question 2 of 2nd survey)		
		Increase	Unchanged	Decrease
<i>Attitude towards English (Question 3 of 1st survey)</i>	1	88.89%	2.22%	8.89%
	2	72.31%	4.62%	23.08%
	3	66.67%	16.67%	16.67%
	4	50.00%	25.00%	25.00%

Cont. to TABLE II				
<i>Learning habits (Question 4 of 1st survey)</i>	1	74.36%	2.56%	23.08%
	2	83.64%	3.64%	12.73%
	3	100.00%	0.00%	0.00%
	4	70.59%	17.65%	11.76%
	5	50.00%	0.00%	50.00%
<i>Professional foundation (Question 13 of 1st survey)</i>	1	93.75%	0.00%	6.25%
	2	75.00%	3.57%	21.43%
	3	75.00%	15.00%	10.00%
<b>Total</b>		<b>77.50%</b>	<b>5.00%</b>	<b>17.50%</b>

Presents percentages of students' learning outcomes choices in subgroups. Numbers in each horizontal line make up 100%. Three columns represent students' choices of learning outcomes as increase, unchanged, or decreased in bilingual learning. Students are sorted into 4, 5, and 3 groups respectively depending on their choices 1st survey. Numbers for different groups represent students' choices in in Q3, Q4, and Q13, which can be found in Appendix.

We next present in Table III groups of students' preference of different methods. A to G represent methods described in Table I. Results suggest students prefer method A, B and E, as these three are ranked 2.33, 2.47, and 3.44 on average. Results by different groups are qualitatively the same, suggesting acceptance level of different groups of students do not vary significantly.

TABLE III. TEACHING METHODS

		Teaching Methods						
		A	B	C	D	E	F	G
<i>Attitude towards English (Question 3 of 1st survey)</i>	1	1.93	2.24	3.69	5.02	3.67	5.64	5.80
	2	2.54	2.52	3.86	4.62	3.28	5.15	6.03
	3	2.17	2.50	3.50	5.00	2.67	5.67	6.50
	4	2.75	2.00	3.00	5.00	3.25	5.50	6.50
<i>Learning habits (Question 4 of 1st survey)</i>	1	2.59	2.18	3.90	4.31	3.49	5.74	5.79
	2	2.25	2.47	3.49	5.11	3.27	5.22	6.18
	3	2.33	3.33	4.00	4.67	4.67	4.33	4.67
	4	2.06	2.65	4.06	4.94	2.82	5.35	6.12
<i>Professional foundation (Question 13 of 1st survey)</i>	1	2.13	2.06	4.00	4.81	3.44	5.50	6.06
	2	2.35	2.48	3.61	4.74	3.29	5.44	6.11
	3	2.25	2.35	4.15	5.05	3.80	5.00	5.40
<b>Total</b>		<b>2.33</b>	<b>2.47</b>	<b>3.75</b>	<b>4.81</b>	<b>3.44</b>	<b>5.29</b>	<b>5.92</b>

Presents average number of students' ranking of methods A to G. 1 represents most helpful and 7 the least. Students are sorted into 4, 5, and 3 groups respectively depending on their choices 1st survey. Numbers for different groups represent students' choices in in Q3, Q4, and Q13, which can be found in Appendix.

V. CONCLUSION

Using first hand teaching practice data, this study explores essential causes of the problems in bilingual teaching in Chinese higher education and effective ways to improve the teaching outcomes, filling the gap between theoretical and empirical gaps. Based on surveys conducted before and after applying a series of teaching methods, we find that low efficiency in bilingual teaching and low interests among students are mainly caused by mismatch between students' English skills and professional knowledge. In order to test this theory, we applied seven teaching methods to solve the aforementioned problems, including targeted previews, English keywords, better multimedia courseware, digital micro English lessons and platform, empirical examples, international current affairs, and recent theoretical advances. Results show that teaching effects of targeted previews, English keywords, digital micro English lessons and platform are most accepted by

students. We also examine reactions of students with different English skills, learning habits, and professional knowledge towards these methods, and results do not suggest any qualitative difference. We compare learning outcomes of different teaching methods for different types of students and hopefully this process can inspire bilingual courses and foreign language courses for lecturers around the world.

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#### APPENDIX

##### 1st Survey:

1. What kind of English tests have you taken and what is the result? (You can choose multiple answers): 1. CET 4; 2. CET 6; 3. ITELS; 4. TOFEL; 5. TEM4; 6. TEM8; 7. others
2. Please rank your English listening, speaking, reading, and writing skills.
3. What is your general feeling towards English? 1. Interested; 2. A little intimidated; 3. Very difficult; 4. Opposed to it.
4. How would you describe your learning habit? 1. Listen to the lecture in class and learn by yourself; 2. Mainly by self-studying; 3. In addition to syllabus knowledge, I actively expand my learning scope; 4. I only study before and for exam; 5. Cannot tell.
5. How do you feel about bilingual teaching in college? 1. Very meaningful; 2. Somewhat meaningful; 3. Cannot say; 4. Not very meaningful; 5. Not at all meaningful.
6. (if choose 1 and 2 in question 5) Why? 1. A bilingual courses offer both professional and professional English learning opportunity; 2. Bilingual courses offer more international professional theories; 3. The content of the bilingual course is more professional; 4. Bilingual courses are more likely to stimulate interest in learning; 5. I can extend my English skills in bilingual courses; 6. Taking bilingual courses can help me get a job offer/go abroad; 7. Bilingual lecturers are efficient in teaching.
7. (if choose 3 in question 5) Why? 1. Do not understand the meaning of bilingual courses; 2. Do not understand the meaning of professional English; 3. Bilingual courses and ordinary courses are the same to me.
8. (if choose 4 and 5 in question 5) Why? 1. Bilingual courses are too demanding for English; 2. Bilingual course is not deep enough for professional study; 3. Not interested in bilingual courses; 4. Learning task is too heavy in bilingual courses; 5. Bilingual courses are no different than ordinary courses; 6. The learning outcome of bilingual courses is poor. 7. Bilingual course have poor in efficiency.
9. What do you think are the prerequisites for bilingual courses? (5 for agree and 1 for disagree) A. Master English vocabulary and usage; B. Targeted preview; C. Solid professional foundation; D. Teaching skills and teaching depth; D. Active interactions with teacher; E. International application of professional knowledge; F. Use of online teaching resources; G. Use of multimedia software.
10. How well do you know this bilingual course we are going to study? 1. Very well; 2. Well; 3. No special feeling; 4. Not very familiar; 5. Not at all.
11. Based on your understanding, what kind of obstacles you will face in

learning this bilingual course? (5 for agree and 1 for disagree) A. Professional foundation is not solid; B. Not interested in this course; C. Poor English skills; D. Insufficient interaction with teachers; E. Lots of pressure from other courses; F. Poor teaching skills from lecturers; G. Learning methods are not efficient.

12. Which of the following methods (materials) do you think will help with your learning? (5 for agree and 1 for disagree) A. Targeted pre-class preview; B. Mastering the vocabulary and usage of professional English; C. Better multimedia courseware; D. Digital short slow English lectures; E. Empirical examples; F. International professional progress and current affairs; G. Introduction of recent theoretical advances.
13. In general, how do you feel about your professional foundation? 1. Very good; 2. No special feeling; 3. Bad.
14. There is something else I want to say\_\_\_\_\_

##### 2nd Survey:

1. This bilingual course is: 1. my major; 2. not my major.
2. After learning this bilingual course, my interest in learning is: 1. Increased; 2. Decreased; 3. Unchanged.
3. After learning this bilingual course, my attitude towards bilingual teaching is: 1. Better; 2. Worse; 3. Unchanged.
4. Please rank the level of helpfulness of the following teaching/learning methods or materials: A. Targeted pre-class preview; B. Mastering the vocabulary and usage of professional English; C. Better multimedia courseware; D. Digital short slow English lectures; E. Empirical examples; F. International professional progress and current affairs; G. Introduction of recent theoretical advances.
5. There is something else I want to say\_\_\_\_\_